

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The MONTHLY WEATHER REVIEW for October, 1901, is based on reports from about 3,100 stations furnished by employees and voluntary observers, classified as follows: regular stations of the Weather Bureau, 159; West Indian service stations, 13; special river stations, 132; special rainfall stations, 48; voluntary observers of the Weather Bureau, 2,562; Army post hospital reports, 18; United States Life-Saving Service, 9; Southern Pacific Railway Company, 96; Hawaiian Government Survey, 200; Canadian Meteorological Service, 32; Jamaica Weather Office, 160; Mexican Telegraph Service, 20; Mexican voluntary stations, 7; Mexican Telegraph Company, 3; Costa Rican Service, 7. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Hawaiian Government Survey, Honolulu; Señor Manuel E. Pastrana, Director of the Central Meteorological and Magnetic Observatory of Mexico; Camilo A. Gonzales, Director-General of Mexican Telegraphs; Mr. Maxwell Hall, Government Meteorologist, Kingston, Jamaica; Capt. S. I. Kimball, Superintendent of the United States Life-Saving Service; Commander Chapman C. Todd, Hydrographer, United States Navy; H. Pittier, Director of the Physico-Geographic Institute, San Jose, Costa Rica; Capt. François S. Chaves, Director of the Meteorological Observatory, Ponta Delgada, St. Mi-

chaels, Azores, and W. M. Shaw, Esq., Secretary, Meteorological Office, London; Rev. Josef Algué, S. J., Director, Philippine Weather Service.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to conform generally to the modern international system of standard meridians, one hour apart, beginning with Greenwich. The Hawaiian standard meridian is $157^{\circ} 30'$, or $10^{\text{h}} 30^{\text{m}}$ west of Greenwich. The Costa Rican standard of time is that of San Jose, $0^{\text{h}} 36^{\text{m}} 13^{\text{s}}$ slower than seventy-fifth meridian time, corresponding to $5^{\text{h}} 36^{\text{m}}$ west of Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local standard is mentioned.

Barometric pressures, whether "station pressures" or "sea-level pressures," are now always reduced to standard gravity, so that they express pressure in a standard system of absolute measures.

During the temporary absence of Professor Abbe, Mr. H. H. Kimball has been designated Acting Editor of the REVIEW.

FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

Forecasts of the direction and force of the wind and the state of the weather along the transatlantic steamer routes from the American coast to the Banks of Newfoundland were issued daily at 8:00 a. m. and 8:00 p. m., seventy-fifth meridian time. These forecasts covered the first three days out of steamers bound east from United States ports, and the morning forecasts were published in the weather maps issued at Boston, New York, Philadelphia, Baltimore, and Washington.

Three storms apparently crossed the North Atlantic Ocean from the American to the European coast. The first of these passed off Newfoundland on the 1st, was encountered over mid-ocean during the 2d, and was central north of the British Isles on the 3d. During the 4th, 5th, and 6th this disturbance apparently deepened and caused gales on the British and northwestern European coasts. During the night of the 18-19th a storm of marked strength passed north of east over Newfoundland, was reported in mid-ocean on the 20th, and reached the Irish coast, with diminished intensity, on the 21st. On the morning of the 18th shipping interests were advised as follows:

Severe storm will move north of east over Newfoundland to-day and will be encountered over mid-ocean by steamers leaving European ports bound west.

During the night of the 24-25th a storm crossed Newfoundland, which apparently passed north of Scotland during the 27th and 28th.

Vessel interests on the Great Lakes and along the United States coasts were fully advised regarding the winds of the month. In the Lake region the only notable storm of the month occurred on the 12th and 13th. In the West Indies no well-defined hurricane appeared.

The frosts of the month were accurately forecast. The first killing frost of the month in the cranberry district of Massachusetts was forecast twenty-four hours in advance, and timely warnings were given of the frost that occurred in northern parts of the middle and west Gulf States. Frost was frequent in Washington and Oregon east of the Cascade Mountains.

On the 12th snow was reported in southwest Nebraska, and on the 16th the first general snow of the season occurred in western New York.

The night of the 16th the raisin interests of the San Joaquin Valley were notified of the rain which fell in that section on